Paper No. 45

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

***Ex parte*** DANIEL DAVID YOUNG, KENNETH ADAIR WHEELER, FRANK PAUL BISCRDI and EDWARD BROOKS MOORE

Appeal No. 2003-0583
Application No. 09/270,688

Heard: October 21, 2003

Before BARRETT, FLEMING, and BLANKENSHIP, ***Administrative Patent Judges***.

FLEMING, ***Administrative Patent Judge***.

## ***DECISION ON APPEAL***

This is a decision on appeal from the final rejection of claims 1, 3, 4 and 6-29. Claims 2, 5 and 30 have been canceled.

## ***Invention***

The invention relates to a method and system for forming custom-made insoles, wherein the bottom surface of the foot is measured by a laser scanning station and the measurements are forwarded to a milling station where the custom-made insole is produced.

Referring to Figure 1, the invention includes a milling station 10 and a scanning station 20. See page 5 of Appellants' specification. Figure 14 is a cross-sectional illustration of scanning station 20 taken along the line III-III in Figure 1. A laser scanner unit 100 is mounted for movement along support rail 102. The station includes two side laser scanner units 100A, shown in Figure 15A, as well as, a bottom laser scanner 100B unit shown in Figure 16. The laser units scan at least the bottom surface and edges of the foot, such that the unique surface coordinates thereof are accurately measured to produce a custom-made insole. See page 8 of Appellants' specification. The inner structure of scanner station 20 is shown in Figure 15A and includes base 104 and support structures 106 extending upwardly therefrom. Two support rails 102 extend between supports 106 along the length of base 104 on either side. The support rails 102 act as a track for the translation of carrier 108. The side laser units 100A are attached to on the sides of carrier 108 and bottom scanner 100B is attached beneath carrier 108. See page 9 of Appellants' specification.

Located above support rails 102 on each side is a portion of tempered safety glass 112. Another piece of tempered safety glass 114 is positioned to act as a base, such that the customer

places his/her foot directly thereon. In operation, the customer places his/her foot in channel 26 such that the bottom of the foot is scanned by the laser unit which traverses safety glass 114. The system is independent of actual foot position due to the operation of the scanners. The scanners will accurately scan the distances of the bottom surface of the foot regardless if the foot position is askew on the glass. See page 10 of Appellants' specification.

Independent claim 1 is representative of Appellants' claimed invention and is reproduced as follows:

1. A method of forming a custom-made insole comprising the steps of:

randomly positioning a foot to be measured on a laser scanning station;

passing at least one laser scanning unit along an undersurface of the foot;

scanning the undersurface of the foot with the at least one laser scanning unit by directing at least one line of laser light along the undersurface;

measuring surface coordinates of the undersurface detected by the at least one laser scanning unit;

processing the measured surface coordinates;

transmitting the processed measured surface coordinates to a data processing unit; and

milling a custom-made insole based on the transmitted surface coordinates.

***References***

The references relied on by the Examiner are as follows:

| | | |
|---|---|---|
| Yanagida | 5,088,864 | Feb. 18, 1992 |
| Sundman | 5,449,256 | Sep. 12, 1995 |
| Garuet-Lempirou | 5,712,803 | Jan. 27, 1998 |

***Rejections at Issue***

Claim 13 stands rejected under 35 U.S.C. § 102 as being anticipated by Yanagida.

Claims 1, 4 and 6-29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sundman and Garuet-Lempirou.

Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over Sundman and Garuet-Lempirou and further in view of Appellants' prior art.[1]

Throughout the opinion, we make reference to the briefs[2] and the answer for the respective details thereof.

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[1] We note that the rejection of claims 1, 7-16 and 20-29 under 35 U.S.C. § 103 as being obvious over White and Sundman has been withdrawn by the Examiner. See page 3 of the Examiner's answer. Furthermore, the rejection of claims 1, 3, 4 and 6 under 35 U.S.C. § 103 as being obvious over White and Sundman and further in view of admitted prior art has also been withdrawn by the Examiner. See page 3 of the Examiner's answer.

[2] Appellants filed an appeal brief on June 24, 2002. Appellants filed a reply brief on November 4, 2002. The Examiner mailed out an Office communication on December 3, 2002, stating that the reply has been entered into the record.

***OPINION***

With full consideration being given the subject matter on appeal, the Examiner's rejections and arguments of Appellants and the Examiner, for the reasons stated ***infra***, we reverse the Examiner's rejection of claim 13 under 35 U.S.C. § 102. However, we affirm the Examiner's rejection of claims 1, 3, 4, 6-16 and 20-29 under 35 U.S.C. § 103.

***Rejection under 35 U.S.C. § 102***

Appellants argue that Yanagida does not teach "at least one scanning station for supporting a foot to be measured, the at least one scanning station including at least one movable laser scanning unit for determining coordinates of an undersurface of the foot by directing at least one line of laser light along the undersurface" as recited in Appellants' claims 13. See page 5 of the brief. Appellants further emphasize that Yanagida does not teach "at least one laser scanning station having at least one movable scanning unit" as recited in Appellants' claim 13. See page 3 of the reply brief. In particular, Appellants point out that Yanagida's device uses cameras 12a and 12b and are not movable.

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element

of the claim. ***See In re King***, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and ***Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.***, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

Upon our review of Yanagida, we find that the person's face must be correctly aligned with the center line 15 on the monitor. See column 3, line 52 through column 4, line 4 of Yanagida. In order to maintain the correct alignment, the chair is repositioned. Therefore, the laser beam method (col. 5, lines 53-65) does not meet Appellants' claimed limitation of "at least one laser scanning station having at least one movable laser scanning unit" as recited in Appellants' claim 13. See col. 3, lines 38-68. There is no teaching that "displacing the light film relative to the person's face" (col. 5, line 65) is done by scanning the laser, instead of the disclosed method of moving the chair.

Appellants further argue that Yanagida fails to teach scanning the under surface of a person's foot to create a shoe insole. Appellants' claim 13 recites "determining coordinates of an under surface of the foot by directing at least one line of laser light along the under surface . . . at least one insole - milling station including a milling assembly for forming the

custom-made insole." We agree that Yanagida teaches scanning the front side of a person to make an engraving of the person on a model. However, we fail to find a teaching of the above limitations recited in Appellants' claim 13. Therefore, we will not sustain the Examiner's rejection of claim 13 under 35 U.S.C. § 102.

***Rejections under 35 U.S.C. § 103***

Claims 1, 4 and 6-29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sundman and Garuet-Lempirou.

At the outset, we note that Appellants state on page 4 of the brief that claims 1, 4, and 6-12 stand or fall together and claims 13-29 stand or fall together. However, in the brief and reply brief, we note that Appellants argue independent claims 1 and 13 together and independent claim 17 separately. No other claims are argued. 37 CFR § 1.192(c)(7) (July 1, 2001) ***as amended at*** 62 Fed. Reg. 53196 (October 10, 1997), which was controlling at the time of Appellants filing the brief, states:

> For each ground of rejection which [A]ppellants contest and which applies to a group of two or more claims, the Board shall select a single claims from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, Appellants explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what

> the claims cover is not an argument as to why the claims are separately patentable.

We will, thereby, consider Appellants' claims 1, 4, 6-16 and 20-29 as standing or falling together and we will treat claim 1 as a representative claim of that group. In addition, we will consider Appellants' claims 17-19 as standing or falling together and we will treat claim 17 as a representative claim of that group. ***See also In re McDaniel***, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) ("If the brief fails to meet either requirement [of 37 CFR § 1.192(c)(7)], the Board is free to select a single claim from each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim.")

We will first address the rejection of claim 1 under 35 U.S.C. § 103 as being unpatentable over Sundman and Garuet-Lempirou. In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a ***prima facie*** case of obviousness. ***In re Oetiker***, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). ***See also In re Piasecki***, 745 F.2d 14687, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one

of ordinary skill in the art suggests the claimed subject matter. ***In re Fine***, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. ***Oetiker***, 977 F.2d at 1445, 24 USPQ2d at 1444. ***See also Piasecki***, 745 F.2d at 1472, 223 USPQ at 788.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and argument." ***In re Oetiker***, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." ***In re Lee***, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

Appellants argue that their invention obtains the true image of a foot by imaging a foot in a non-weight bearing and non-compressed state. See page 6 of the brief and page 4 of the reply brief.

As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the

claim." ***In re Hiniker Co.***, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Claims will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not to be read into the claims. ***In re Etter***, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1958).

Analysis begins with a key legal question -- *what* is the invention *claimed*? . . . . Claim interpretation . . . will normally control the remainder of the decisional process. ***Panduit Corp. v. Dennison Manufacturing Co.***, 810 F.2d 1561, 1567-68, 1 USPQ2d 1593, 1597 (Fed. Cir.) *cert. denied*, 481 U.S. 1052 (1987).

We note that Appellants' claim 1 recites "randomly positioning a foot." We fail to find that the claim limits to a foot in a non-weight bearing, non-compressed natural state. We note that for instance, the claim does not require that it is a bare foot. Furthermore, we note that the claim recites "comprising" which does not limit other steps such as providing a compression sock on the foot in the method steps. Therefore, we fail to find the claim precludes a human foot wearing a compression sock as argued by Appellants.

Even having determined the claimed scope covers a foot wearing a compression sock, we find that Garuet-Lempirou teaches digitizing a human foot. See column 4, lines 14-16, column 5, lines 3-5, and column 5 57-58. We do note that Figure 1 shows a foot 4 wearing some sort of material. We note that Garuet-Lempirou teaches digitizing a human foot in the natural state as well. We note that Garuet-Lempirou does teach in column 1, lines 48-55 that one embodiment would be to enclose the foot in a support stocking. However, Garuet-Lempirou makes it clear that this is a non-limiting example. See column 1, lines 53-54. Garuet-Lempirou states that in the first family of applications, the invention is used to digitize a human member and in particular a human foot to plot its volume. See column 1, lines 49-52. Therefore, we find that Garuet-Lempirou does teach "randomly positioning a foot to be measured on a laser scanning station" as recited in Appellants' claims.

Appellants further argue that Sundman does not disclose or suggest "scanning the undersurface of the foot with at least one laser scanning unit by directing at least one line of laser light along the undersurface" as recited in Appellants' claim 1. As we have already found above, Garuet-Lempirou teaches scanning the undersurface of a foot. However, Appellants further argue that

Garuet-Lempirou fails to teach that the transparent wall is not digitized and calibration occurs with the transparent plate in place as required by Appellants' invention. See pages 6 and 7 of the brief and page 4 of the reply brief.

We note that Appellants' claim 1 recites "scanning the undersurface of the foot with the at least one laser scanning unit by directing at least one line of laser light along the undersurface." We fail to find that this limitation requires that the transparent wall is not digitized and calibration occurs with the transparent plate in place. As we pointed out above, Appellants' claim 1 recites "comprising" which does not preclude other steps such as taught by Garuet-Lempirou in the method.

Appellants argue that there is no reason or motivation in the prior art to have the longitudinal pin type foot contour measurement machine taught by Sundman substituted with the laser scanning foot contour measurement device taught by Garuet-Lempirou. See page 8 of the brief and page 5 of the reply brief. However, during the oral argument, Appellants' representative did agree that there would have been reasons to make the modification at the time of the invention.

Furthermore, we find that Garuet-Lempirou teaches their invention is an application to digitize a human foot, in

particular for making shoes to measure. See column 4, lines 14-16. Therefore, we find that Garuet-Lempirou would have suggested the combination of Sundman and Garuet-Lempirou as proposed by the Examiner.

Appellants have not made any other arguments as to claims 1, 4, 6-16 and 20-29. 37 CFR § 1.192(a) states:

> Appellants must, within two months from the date of the notice of appeal under § 1.191 or within the time allowed for reply to the action from which the appeal was taken, if such time is later, file a brief in triplicate. The brief must be accompanied by the fee ste forth in § 1.17(c) and must set forth the authorities and arguments on which [A]ppellant will rely to maintain the appeal. Any arguments or authorities not included in the brief will be refused consideration by the Board of Patent Appeals and Interferences, unless good cause is shown.

Thus, 37 CFR § 1.192 provides that only the arguments made by Appellants in the brief will be considered and that failure to make an argument constitutes a waiver on that particular point. Support for this rule has been demonstrated by our reviewing court in ***In re Berger***, 279 F.3d 975, 984, 61 USPQ2d 1523, 1528-29 (Fed. Cir. 2002), wherein the Federal Circuit Court stated that because the Appellants did not contest the merits of the rejections in his brief to the Federal Circuit Court, the issue is waived.

Turning to independent claim 17, Appellants argue that neither Sundman nor Garuet-Lempirou teaches or suggests "at least one scanning station including a base having a length for supporting the foot . . . the at least one laser scanning unit including a first and second side portion extending upwardly from the base along the length thereof" as recited in Appellants' claim 17. See pages 7 and 8 of the brief and page 4 of the reply brief.

We note that Appellants' specification shows a base 14 and at least one scanning unit 110 including a first and second side portion (the portions nearest the 112 glass) extending upwardly from the base along the length thereof. See Figure 15A in Appellants' specification. We note that Garuet-Lempirou's Figure 1 shows a base 40 for supporting a foot and a cradle 2 having first and second side portions. The side portions of Garuet-Lempirou's cradle extend upwardly from the base of cradle 2 as well as from base 40 which supports the foot. We note the claim languages of claim 17 only requires "one scanning unit" including first and second portion extending upwardly. Therefore, we find that the combination of Sundman and Garuet-Lempirou meets the Appellants' claimed limitation of "at least one scanning station including a base having a length for supporting a foot . . . the

at least one scanning unit including a first and second side portion extending upwardly from the base along the length thereof." Therefore, we will sustain the Examiner's rejection of claim 17 under 35 U.S.C. § 103.

Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over Sundman and Garuet-Lempirou and further in view of Appellants' admitted prior art. Appellants argue that there is no motivation to modify Garuet-Lempirou to direct "a non-focused fan-shaped line of laser light along the undersurface" of the foot. See pages 9 and 10 of the brief and pages 5 and 6 of the reply brief.

We find that Garuet-Lempirou teaches "a sensor comprising a laser source generating lamellar beams, for example the beam $F_{21}$." See column 4, lines 50-61. We note that Figure 1 shows beam $F_{21}$ (actually shown as $F_{11}$, an obvious typographical mistake.) The figure shows the beam being a lamellar beam having a characteristic of a non-focused fan-shaped line of laser light. The beam is shown as non-focused fan-shaped in that the lines are shown as non-converging. We find that this teaching would suggest to those skilled in the art to use a non-focused fan-shaped line of laser light such as those in which Appellants have admitted as prior art.

In view of the foregoing, we have not sustained the Examiner's rejection of claim 13 as being anticipated under 35 U.S.C. § 102. However, we have sustained the Examiner's rejection of claims 1, 3, 4, 6-29 under 35 U.S.C. § 103.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

***AFFIRMED***

| | | |
|---|---|---|
| LEE E. BARRETT<br>Administrative Patent Judge | ) | |
| | ) | BOARD OF PATENT APPEALS AND INTERFERENCES |
| MICHAEL R. FLEMING<br>Administrative Patent Judge | ) | |

MRF/lbg

BLANKENSHIP, ***Administrative Patent Judge***, concurring.

While I concur with the results reached by my colleagues, I respectfully disagree with the finding that Yanagida fails to disclose a movable laser scanning unit, as required by instant claim 13. Also, with regard to requirements of the same claim, I respectfully disagree with the majority's reasoning to the extent that the decision may rest on the finding that Yanagida fails to teach scanning the undersurface of a person's foot.

For the teaching of the movable laser scanning unit, the examiner relies on material at column 5 of the reference, which discloses (col. 5, ll. 45-65) that the apparatus making up the three-dimensional "contour measuring means" is not limited to the combination of cameras and CCD's described earlier in the reference. Yanagida discloses, in the column five section, that a person's face is scanned by a laser light beam in the form of a "light film," with the three-dimensional configuration of the person's face measured by "displacing the light film relative to the person's face."

In my opinion, Yanagida provides substantial support for the examiner's finding that the reference discloses a movable laser scanning unit. Yanagida describes the light film being displaced relative to the person's face, not the person's face being

displaced relative to the light film. In the implementation of the "contour measuring means" described earlier in the reference, a movable chair is in combination with the cameras and CCD's. Col. 3, ll. 52-67. However, the chair is movable so that the person's face may be initially positioned with respect to the cameras and CCD's. The face must be positioned within the cameras' fields of view, so that the CPU may determine angles of the contours from the acquired images. Col. 4, ll. 3-47. The movement of the chair is not described as being part of any scanning operation.

I also agree with the examiner that instant claim 13 contains functional limitations that fail to distinguish over Yanagida. For example, it appears -- at least to the extent necessary to shift the burden to appellants to show otherwise -- that the apparatus described by Yanagida is capable of scanning and determining coordinates of an undersurface of a foot, thus disclosing what claim 13 requires of the scanning station.

In the present anticipation analysis, it matters little that Yanagida does not describe scanning an undersurface of a foot. The law of anticipation does not require that a reference "teach" what an applicant's disclosure teaches. Assuming that a reference is properly "prior art," it is only necessary that the

claims "read on" something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or "fully met" by it. Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983). Instant claim 13 is drawn to a machine, rather than a process. The machine that the claim sets forth is compared to the prior art -- not how one may put the machine to use. See In re Hack, 245 F.2d 246, 248, 114 USPQ 161, 162 (CCPA 1957)("[T]he grant of a patent on a composition or machine cannot be predicated on a new use of that machine or composition"). See also In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997)("It is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable").

However, claim 13 also requires an insole-milling station that includes a milling assembly for forming a custom-made insole. Yanagida's system is adapted for engraving a medal (e.g., col. 3, ll. 5-21). The system could not be considered to meet the requirements of an insole-milling station capable of forming a custom-made insole. I do not consider the recitation of "insole-milling station" to be functional, and do not consider the limitation to be met by the reference. Claim language should be read in light of the specification as it would be interpreted

by one of ordinary skill in the art. In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983). In my opinion, the artisan would not regard Yanagida as describing an insole-milling station. Further, I do not consider Yanagida's system capable of meeting the functional limitation related to forming a custom-made insole.

I am thus in ultimate agreement with the majority's decision with respect to claim 13, in that Yanagida fails to anticipate.

HOWARD B. BLANKENSHIP
Administrative Patent Judge

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